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# FISH-HOOKS MADE OF BONE.

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BY F. W. PUTNAM.

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[FROM THE TWENTIETH REPORT OF THE PEABODY MUSEUM OF AMERICAN  
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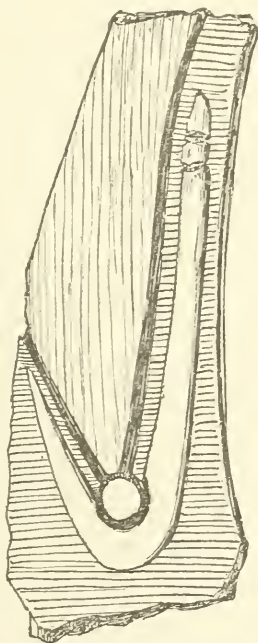
## THE WAY BONE FISH-HOOKS WERE MADE IN THE LITTLE MIAMI VALLEY.

BY F. W. PUTNAM.

WHEN engaged in arranging the archæological collection brought together by Dr. C. L. Metz before he became associated with the Peabody Museum, which was made over to the Museum in 1884, my attention was arrested by three pieces of bone found during the early explorations of the singular ash-pits in the ancient cemetery<sup>1</sup> near Madisonville, Ohio, with which work the name of Dr. Metz is so intimately associated. They were simply rough splinters from the leg-bones of deer, in each of which two grooves had been cut, meeting at an angle where a hole had been bored through the bone. The relation of these two grooves to each other was immediately suggestive of a roughly blocked out fish-hook, and upon placing a hook upon the bone this was made evident, as shown in the sketch, Fig. 1, which represents one of the pieces of bone upon which a finished hook is shown in outline.

In making one of these hooks, a splinter from a leg bone of a deer, of proper size, was selected, and a hole was bored near one end. The portion indicated by the vertical lines in the figure was then removed by making a cut from the upper end to the hole, and another from the hole obliquely to the side,

FIG. 1.

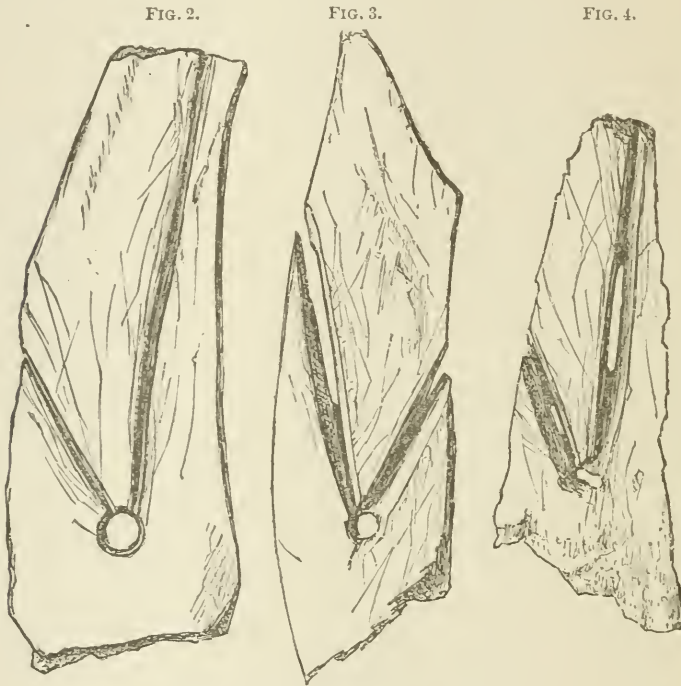


Sketch showing method of making a fish-hook of bone.

<sup>1</sup>This place has now become so well-known to all interested in American archæology that it is not necessary to do more than refer to the *Journal of the Cincinnati Society of Natural History*, Vol. III, 1880, pp. 40-68; 128-139; 203-220; and the *Reports of the Peabody Museum* Vol. III, pp. 63-67, 165-167, for accounts of the exploration of the place.

as shown by the deeply shaded portions in the figure. The inside of the hook was thus roughly formed. The portion of the bone, represented by the horizontal lines in the figure was next removed by cutting and rubbing on a stone; then the hook was smoothed by rubbing it in a grooved stone<sup>2</sup>, and finally it was polished to the satisfaction of the maker.

Figures 2, 3, and 4 represent the three pieces of bone (Cat. No. 35,823) found in the ashpits by Dr. Metz.



Fish-hooks in process of manufacture.

Fig. 2. In this piece of bone the hole was carefully bored from both sides of the bone, with a flint drill as shown by the striæ. The two slight grooves extending from the hole to the top and side of the piece show that the work of removing the piece of bone from

<sup>2</sup>Pieces of sandstone with grooves of various sizes, such as could well be used for this purpose, have been found in numbers in the pits, and in fact all the implements required for making a fish-hook in the manner described are at hand in the collection from the ashpits.

the inner portion was but just begun. The scratches along these grooves and upon the surface of the bone indicate that the cutting was done by a saw-like movement of the flint knife. The natural contour of the bone throws the point of the hook out of a vertical line with the shaft, as is noticeably the case with several of the finished hooks.

Fig. 3. In this piece the inner portion was nearly cut out by widening and deepening the two grooves on the outer surface of the bone, and a slight cut was made on the opposite side. A few strokes more and the piece would have been detached, but the work was left unfinished.

Fig. 4. The hook here designed was to have been smaller than the others. The workman, however, does not seem to have been so skilled; or, at all events, in boring and cutting this specimen there was not the same care given to the work as with the others. In this, the hole is roughly made, first by boring with a small drill from the under side and then by enlarging it laterally from both sides. The removal of the inner portion was nearly completed by cutting entirely from the outer surface of the bone, which has been cut through in the central part of each groove. As in the preceding, a few more strokes of the flint knife would have finished this part of the work.

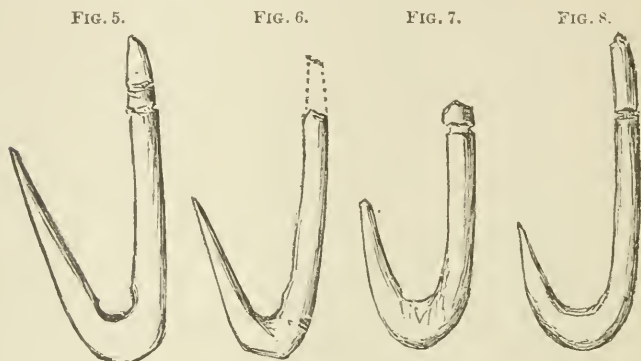
Dr. Rau, in his excellent monograph on Prehistoric Fishing, published by the Smithsonian Institution in 1884, has given figures of three fishhooks<sup>3</sup> made of bone which were found in the ash-pits of the ancient cemetery, and four others, also from the ash-pits, are here represented from the Metz collection.

Of the latter, three (32520) are well finished, and one, Fig. 5, is a finely made and highly polished specimen, in which the lower half of the hole, bored when the hook was designed, is distinctly defined. Fig. 6 is a smaller but equally well finished hook, and the outline of a portion of the preliminary boring in the bone has not been obliterated. Fig. 7 is a hook very similar to the last but is rough from decay of the bone. Fig. 8 differs from the others in having the point, when compared with the shank, relatively shorter, and in having the inner surface of the shank and point flat, and the outer portion of the shank two-sided, thus giving a triangular section to the shank, as would be the case if the hook

<sup>3</sup> Figs. 181, 191, 192. The last is remarkable in having a small hole drilled through the end of the shank.

were left without rubbing down after having been roughly shaped. The point, however, has been rounded and well sharpened.

In several of the bone fish-hooks found in other places in this country, and also in the Swiss Lakes, the outline of a portion of the hole bored at the first stage of manufacture is apparent in the bend of the hook. This is markedly the case in Ran's fig. 188 from Cunningham's Island, Lake Erie, as in my fig. 5, and also in his figs. 47 and 48 from the site of the Lake Dwelling at Wangen. This is also the case in the hook made of a boar's tusk from the Lake Dwelling at Moosseedorf, copied by Rau as fig. 46 from Keller's volume. Of the latter, Dr. Keller writes<sup>4</sup> that "it was manufactured by boring two holes through the tusk, and cleaning away



Bone fish-hooks from the ashpits.

the space between them, and the whole was finished by scraping tools."

It will be remembered that the late Mr. Paul Schumacher<sup>5</sup> describes the manufacture of the fish-hooks of shell by the California Indians, as made by boring a hole through the circular piece of shell and then cutting away the portion between the point and the shank. The singular fish-hooks of bone<sup>6</sup>, some with the barbs on the outside, from the same Indian graves in Southern California, were evidently made in the same manner, as shown by the perfect curve of the inner portions of the hook.

From an ancient burial place on a sandy ridge near the Little

<sup>4</sup>The Lake Dwellings by Keller, Lee's translation, Pl. XXII, fig. 5.

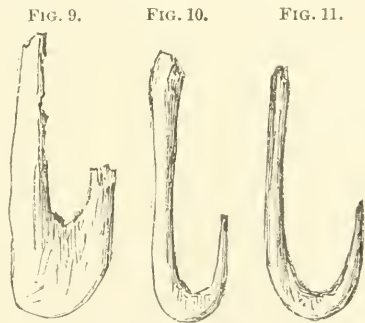
<sup>5</sup>See U. S. Geographical Surveys west of the 100th meridian, under Lt. Wheeler, Vol. VII, Archaeology, p. 223, Pl. XII, figs. 24-27. Also Rau, Prehistoric Fishing, p. 134.

<sup>6</sup>Wheeler, Report, p. 222, Pl. XI, figs. 1-3, and Rau, pp. 129, 130, figs. 194-199.

Miami River, Dr. Metz obtained two perfect fish-hooks of bone and another in process of manufacture, which differ from those found in the ashpits. At this burial place there is an extensive refuse pile, and while many skeletons have been found during our recent explorations we have not discovered a single ashpit. So that, as far as burial customs are determinative, it is likely that distinct tribes lived at the two places, perhaps at different times. From this last mentioned burial place there is a portion of a large fish-hook, which is probably made from a piece of a deer's bone in the same manner as those from the ashpits, and from still another burial place in the valley, on Mr. Turpin's land, we have a fragment of a bone hook, very thick and broad below the bend, which was probably made by first boring the bone.

In making the three hooks from the burial place on the ridge not only were much smaller and thinner bones used than was the case with those from the ashpits, but the drill was dispensed with.

Fig. 9 is a representation of the one (33.064) in process of manufacture. The bone is unquestionably a piece split from the rib of a deer and it still has the cellular portion attached to the under portion. The lower part has been rubbed so as to form the outline of the curved part, and the point was in process of being shaped by cutting and scraping away the portion between it and the shank. The scratches in the notch show this to have been the method of procedure. To finish the hook, the notch would have to be cut a little deeper, and the remaining cellular portion would have to be scraped away, and the whole rubbed smooth with a piece of stone. As a result there would be produced a hook like the finished specimens from the same place (33062-3), shown in Figs. 10 and 11, which were probably made in this way.



Bone fish-hooks from burial-place, Little Miami valley.

It will of course be noticed that none of the bone fish-hooks here described have barbs, and it is questionable if the barb on the inside of the point was known in America until introduced by Europeans. Two or three bone hooks found in the state of New York

have barbs,<sup>7</sup> but Mr. Beauchamp, who has given much attention to the village sites of the Iroquois, thinks that these barbed hooks were late imitations of European fish-hooks. The barbed Eskimo hook made of antler and figured by Dr. Rau, p. 131, was very likely copied from a steel hook. It is interesting to recall, in this connection, the singular hooks made of bone with the barb on the *outside*, from the graves in California. Many of the bronze fish-hooks found in the Swiss lakes are smooth-pointed while others are furnished with barbs like our ordinary steel hooks, and they are, probably, the earliest barbed hooks known, although Dr. Rau calls attention (Fig. 91, p. 71) to a bone fish-hook with a barb found in a peat-bog in Scania and described by Nilsson, which may possibly be of Neolithic age.

<sup>7</sup>One of these is represented in Dr. Rau's fig. 133.









